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AMERICA'S CHANGING FOOD CONSUMPTION, 1909-1941

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Address by Oris V. Wells, Bureau of Agricultural Economics, before the American Home Economics Association, Boston, Massachusetts, June 23, 1942

Since there are two misconceptions which might easily be read into the title of this paper, I think the reader should be immediately warned or set aright. First, this is only a series of notes rather than an authoritative or even a smooth-running discussion of the subject.¹ And second, the chief characteristic of per capita food consumption in America during the last few decades has been stability rather than change, although there have been a number of significant changes within the rather stable total.

1. The exact measurement of food consumed or used by even so small a group as a family over a single week is a difficult task. As a result, almost all studies of changes in food consumption are necessarily in terms of apparent consumption or estimated disappearance from sources or channels which can be measured or reasonably well estimated. For those interested, the chief studies in this field are:

O. E. Baker, Changes in Production and Consumption of Our Farm Products and the Trend in Population, Annals of the American Academy of Political and Social Science, Philadelphia, 1929; E. G. Montgomery and C. H. Kardell, Apparent Per Capita Consumption of Principal Foodstuffs in the United States, U. S. Department of Commerce, Government Printing Office, 1930; Supplementary Report of the Land Planning Committee, Part III, Agricultural Land Requirements and Resources, National Resources Board, Government Printing Office, Washington, 1935; and J. P. Cavin, Consumption of Agricultural Products, The Agricultural Situation, Bureau of Agricultural Economics, Washington, January 1939.

There are some excellent studies of the consumption of certain commodities, as, for example: Holbrook Working, The Decline in Per Capita Consumption of Flour in the United States, Wheat Studies of the Food Research Institute, Stanford University, July 1926; and Edmund E. Vial, Production and Consumption of Manufactured Dairy Products, Technical Bulletin 722, U. S. Department of Agriculture, Washington, April 1940. A summary of food consumption data for the United States and other countries is given in Statistics of Food

I

I should like to start this series of notes with the statistical data upon which my analysis is based, as shown in the accompanying table.

There are several things about these data that need to be noted. The several foods or commodities have been grouped together according to their nutritional characteristics, with the exception of canned fruits and vegetables; and are stated in terms of the estimated weight available for sale in the retail market. In order to simplify the table further, the data are in terms of averages for the eight-year period 1909-1916 and the consecutive five-year periods following, through 1937-1941.

I cannot argue for the absolute accuracy of these estimates -- all that can be said is that they are the best series of continuous estimates which we have been able to develop so far. They are based upon production and estimated stocks at the start of each year, corrected for imports, exports, non-food or industrial uses, stocks at the end of the year, and estimated average or normal wastes between the farm and the sales counter in the retail market.

1. (continued from page 1)

Production, Consumption, and Prices, Volume IV of The Problem of Nutrition, documentation prepared by the International Institute of Agriculture for the League of Nations Mixed Committee on The Problem of Nutrition at its Second Session, June 4, 1936. And for an extremely interesting general study, the reader is referred to: Richard Osborn Cummings, The American and His Food, University of Chicago Press, Chicago, 1940. The data used in this analysis have been developed over several years by O. V. Wells, G. Lois Nelson, J. P. Cavin, and F. F. Elliott, and have been submitted for publication in the forthcoming issue of Agricultural Statistics, the statistical yearbook of the U. S. Department of Agriculture (1942).

ESTIMATED AVERAGE ANNUAL PER CAPITA CONSUMPTION OF FOOD IN
THE UNITED STATES, 1909-41 /1

Item	1909-16	1917-21	1922-26	1927-31	1932-36	1937-41
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Dairy Products:						
Fluid milk and cream /2	248.8	249.6	264.4	272.8	269.0	274.2
Evaporated milk, cheese, ice cream	13.9	19.9	22.8	25.1	25.6	33.6
Meats, Poultry, Fish /3	142.8	135.6	139.8	131.7	131.4	136.5
Eggs	37.2	35.7	39.5	40.9	35.5	37.7
Potatoes, incl. Sweet Potatoes	187.0	170.4	163.9	156.7	156.8	146.9
Beans, Peas, and Nuts	11.2	13.1	12.0	14.1	15.0	16.0
Fresh Fruit:						
Citrus	18.2	20.8	27.2	32.3	37.2	54.3
Other	156.0	139.4	140.9	144.4	132.6	144.1
Dried Fruit	4.2	5.9	6.0	5.7	5.5	6.2
Canned Fruit	4.2	7.9	9.2	13.0	12.5	17.2
Fresh Vegetables: /4						
Tomatoes			(13.8	13.8	14.7	17.2
Leafy, green, and yellow	100.0	100.0	(51.7	57.6	60.8	69.5
Other			(36.1	40.1	41.0	47.8
Canned Vegetables	13.0	13.4	16.0	18.9	17.9	23.2
Cereal Products:						
Wheat flour	206.4	180.1	176.0	173.4	156.6	154.0
Other /5	77.1	55.6	51.3	49.4	43.3	42.1
Sugar and Sirup /6	91.0	95.8	115.9	114.4	107.9	113.7
Butter and Fats:						
Butter	17.4	15.2	17.9	17.7	17.7	17.0
Other /7	43.4	43.5	45.5	46.7	44.8	48.4
Coffee, Tea, Chocolate & Spices	13.2	16.6	16.7	17.4	18.4	21.2
TOTAL /8	1385.0	1318.5	1365.6	1386.1	1344.2	1420.8

/1. Consumption in terms of estimated weight available for sale in the retail market calculated from statistics of stocks, production, foreign trade, and estimated wastes between the farm and retail market. /2. Calculated by taking 80 percent of estimated consumption of whole milk & cream in terms of whole milk. /3. Excl. bacon & salt pork & including an allowance of 14 lbs. per capita for fish, 1909-41. /4. Consumption per urban inhabitant, since farm-garden production not estimated. /5. Buckwheat & rye flour, breakfast cereals, and corn-meal. /6. Chiefly cane & beet sugar, with sirup & other sugars accounting for about 13 lbs. per capita, 1909-41. /7. Salad dressing, margarine, vegetable oil cooking compounds, bacon & salt pork, & lard. /8. Simple sum of items without correction for some duplication between sugar and ice cream & canned fruit.

The best over-all check we have been able to obtain is a series of estimates which Dr. Hazel K. Stielking and her associates calculated from the nation-wide Consumer Purchases Study of 1935-36. On the average, the Consumer Purchases data differ from those by within 5 percent, with the Consumer Purchases Study indicating a somewhat higher consumption of certain vegetables and these derived estimates a somewhat higher consumption of meat. The translation of Consumer Purchases data into estimates of average annual per capita consumption itself involves a series of statistical estimates, and in a number of cases there are significant differences between the data derived from the survey or food-estimate schedules and those derived from a more accurate but much smaller number of food records which were also obtained.

Turning now to the data themselves, I should like to call attention to the several items or trends which I consider significant. These are:

(1) The average annual consumption of food over the last three decades has been remarkably stable with relatively small variations as between years in terms of the total. As shown, the total is expressed in terms of total weight of food moving through the retail market or its equivalent, but substantially the same conclusions would be reached if the total were expressed in terms of calories or other nutritional measures such as vitamin or mineral content.

(2) There has been a down trend in the consumption of potatoes and cereal products, especially flour and cornmeal. The consumption

of wheat flour dropped 24 pounds or about 12 percent between 1916-17 and 1918-19, failed to show any significant increase following World War I, again declined during the period 1930 to 1935, and at the present time is only about 75 percent of what it was prior to World War I. The consumption of cornmeal has also been declining, and at present is only about 40 percent of what it was during 1909-16. Our data also indicate that there is a slow down trend in the consumption of potatoes, with current consumption down to about 80 percent of the level which existed prior to World War I.

(3) The consumption of sugar increased about 20 pounds or 25 percent between 1920 and 1925 and then continued at 100 pounds or more per capita through 1941. This increase in sugar consumption has often been interpreted as an offsetting shift to the decrease in cereal and potato consumption and also reflects the result of rising incomes and the maintenance of standards of living at a very high level following World War I.

(4) The consumption of meat and eggs has remained stable, while some increase in the consumption of beans, peas, and nuts is indicated. True, the per capita consumption of eggs and meat, including poultry and fish, has fluctuated some as between the several periods, but there is no significant trend. Such data as are available indicate that the consumption of dry field peas increased from 6.2 pounds per capita in 1909-16 to 8.8 pounds per capita in 1937-41.

(5) A steady increase is indicated for the consumption of the manufactured dairy products -- condensed and evaporated milk, cheese,

and ice cream -- from 1909-16, with some increase in the consumption of fluid milk and cream following World War I, and a further slight increase in 1927-31 as compared with 1922-26, and again in 1937-40 as compared with 1932-36. Butter consumption has remained stable, with the 1932-41 average almost identical with the per capita consumption for 1909-16.

(6) The consumption of fresh fruit has remained stable, but with a considerable shift away from apples to citrus fruit. The consumption of apples is currently running at about 65 percent, and the consumption of citrus fruit at about 300 percent, of the level which existed prior to World War I.

(7) The consumption of vegetables has been increasing during the last two decades, with some slight shift toward the consumption of leafy, green, and yellow vegetables and tomatoes, which has increased about one-half since 1922-26. Such data as we have indicate that the consumption of vegetables was relatively steady from around 1905 through 1925, and that the shifts since then have been in line with the educational recommendations that have been developed from a nutritional standpoint.

(8) And finally, an analysis of supplementary data as well as general observation indicates that there has been a marked drift toward types of food and methods of distribution which lessen "the struggle" of food preparation. That is, there has been a steady increase in the packaging of food and the services which grocers and others render in the form of cutting, trimming, slicing, and freezing

before actually turning the food over to the consumer. I think this is significant not only in its effect upon the amount of time and effort required in the final preparation of the food in the home, but also in its effect upon the increase in the margin between prices received by farmers and prices paid by consumers during and following World War I and in relation to some of the economies which we may be forced to during World War II.

II

The assignment was to discuss changes in food consumption from 1909-through 1941, but, of course, I must also say something about the distribution and nutritional adequacy of this food supply as well as a few words about the prospect ahead.

As all of you are well aware, there has been a steady increase of interest during the last decade in the data relating to distribution of food as between different income groups and the development of methods by which disadvantaged families can obtain a more adequate diet.^{1/2} This is an interest which I am sure will be sustained, and, although I am not certain that we can find the available resources to increase further the average per capita amounts of food available during the war period, it is clearly desirable that an increasing amount

^{1/2.} The reader is referred to: Milo Perkins, The Challenge of Underconsumption, U. S. Department of Agriculture, Federal Surplus Commodities Corporation, Washington, February 1940; Hazel K. Stiebeling, Are We Well Fed? Miscellaneous Publication 430, U. S. Department of Agriculture, Bureau of Home Economics, Washington, 1941; and C. V. Wells, Estimates of Quantities of Food Necessary to Provide Certain Specified Diets and Crop Acreages and Numbers of Livestock Required for Indicated Production, statement submitted to the Select Committee Investigating National Defense Migration, House of Representatives, February 13, 1942.

of our energy and funds should be spent in this field following World War II.

There are, I think, three conditions which must be met if we are to obtain the nutritionally adequate food which I am sure all of us so much want. First, consumers must be educated to desire or to demand a nutritionally adequate diet. I suspect that to require every person in the United States to eat an ideal or altogether adequate diet in the year ahead would call for as much or more "regimentation" than many of us would want. This is a field, however, in which the work is well started and I am certain that members of the American Home Economics Association will see that it is continued.

Second, it is essential that consumers generally have the means to obtain enough food to assure an adequate diet. This requires either full employment and adequate incomes for all families or the development of some means of supplementing purchasing power available to low-income families for food. The current food stamp and school lunch programs of the U. S. Department of Agriculture fall in this second field, and the main stream of economic and social science is today devoted very largely to the problem of maintaining full employment.

And third, farmers must produce the needed food. Frankly, I think the third requirement is the easiest one to meet, assuming that reasonable prices can be offered. It is, of course, extremely difficult to obtain increases in food over any short period; but over any reasonable number of years, food production could be increased materially,

provided, of course, that all surplus or transferable resources are not otherwise engaged.

With respect to the immediate prospect for the twelve months ahead, we have in sight what appears to be the largest supply of food on record. At the same time, however, there are certain foods which are and will continue to be short, such as sugar, while a considerable portion of our food supplies will be needed to maintain the armed forces and to supply our allies with the food which they so greatly need. The armed forces and the lend-lease program, of course, will demand large quantities of concentrated foods; and the effective demand for these is limited by shipping facilities rather than by supplies of the quantities desired. After these demands have been satisfied, however, it is likely that our average per capita consumption of food during the next twelve months will be about equal to that during the period 1936-40, except for an occasional item such as sugar. This may not be equivalent to the record food consumption during the past twelve months or during 1941. But it will certainly be sufficient to assure everyone of about as good a diet as they have been accustomed to, provided reasonable measures are taken to assure equitable distribution of the few foods that may be short.

With respect to the future, we must remember that farmers are faced with shortages of labor, supplies, and equipment, so that maintaining or increasing agricultural production will be a difficult task. At the same time, we should also remember that we are still the best fed nation in the world, even though current diets may still not entirely measure up to the ideal nutritional standard set by the National Research Council, and that the war effort requires that we increase the production of milk, eggs, meat, and a number of fruits and vegetables, all of which are foods that could be used to improve our own national diet once World War II is successfully concluded.

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